

IN THE CLAIMS:

Please add new claims 33 and 34.

This listing of claims will replace all prior versions, and listings of the claims in the application.

Listing of the claims

1. **(Previously presented)** A composition comprising:
 an isolated nucleic acid molecule that encodes an immunogen, wherein said immunogen is a pathogen antigen, a cancer-associated antigen or an antigen linked to cells associated with autoimmune diseases; and
 an isolated nucleic acid molecule that encodes one or more immunomodulating proteins selected from the group consisting of: Fos, c-jun, Sp-1, Ap-1, Ap-2, p38, p65Rel, MyD88, IRAK, TRAF6, Ikb, Inactive NIK, SAP K, SAP-1, JNK, interferon response genes, NFkB, Bax, TRAIL, TRAILrec, TRAILrecDRC5, TRAIL-R3, TRAIL-R4, RANK, RANK LIGAND, Ox40, NKG2D, MICA, MICB, NKG2A, NKG2B, NKG2C, NKG2E, NKG2F, TAP1, TAP2
 wherein the isolated nucleic acid sequence that encodes the immunogen occurs on a separate nucleic acid molecule from the nucleic acid sequence that encode one or more immunomodulating proteins.
2. **(Original)** The composition of claim 1 wherein said nucleic acid molecules are plasmids.
3. **(Canceled)**

4. **(Previously presented)** The composition of claim 1 wherein said immunogen is a pathogen antigen.
5. **(Original)** The composition of claim 4 wherein said immunogen is a herpes simplex antigen.
6. **(Original)** The composition of claim 5 wherein said herpes simplex antigen is HSV2gD.
7. **(Previously presented)** A composition comprising:
an isolated plasmid comprising a nucleotide sequence that encodes an immunogen operably linked to regulatory elements, wherein said immunogen is a pathogen antigen, a cancer-associated antigen or an antigen linked to cells associated with autoimmune diseases; in combination with a separate nucleotide sequence that encodes one or more immunomodulating proteins operably linked to regulatory elements, wherein said immunomodulating proteins are selected from the group consisting of: Fos, c-jun, Sp-I, Ap-1, Ap-2, p38, p65Rel, MyD88, IRAK, TRAF6, Ikb, Inactive NIK, SAP K, SAP-1, INK, interferon response genes, NFkB, Bax, TRAIL, TRAILrec, TRAILrecDRC5, TRAIL-R3, TRAIL-R4, RANK, RANK LIGAND, NKG2D, MICA, MICB, NKG2A, NKG2B, NKG2C, NKG2E, NKG2F, TAP1, TAP2; and a separate plasmid that encodes OX40.
8. – 9. **(Canceled)**
10. **(Previously presented)** The composition of claim 7 wherein said immunogen is a pathogen antigen.
11. **(Original)** The composition of claim 10 wherein said immunogen is a herpes simplex antigen.

12. **(Original)** The composition of claim 11 wherein said herpes simplex antigen is HSV2gD.
13. **(Previously presented)** An injectable pharmaceutical composition comprising the composition of claim 1.
14. **(Previously presented)** A method of inducing an immune response in an individual against an immunogen comprising administering to said individual a composition of claim 1.
15. **(Previously presented)** A composition comprising:
a recombinant vaccine comprising a nucleotide sequence that encodes an immunogen operably linked to regulatory elements, wherein said immunogen is a pathogen antigen, a cancer-associated antigen or an antigen linked to cells associated with autoimmune diseases; in combination with a separate, ~~a~~ nucleotide sequence that encodes one or more immunomodulating proteins operably linked to regulatory elements, wherein said immunomodulating proteins are selected from the group consisting of: Fos, c-jun, Sp-1, Ap-1, Ap-2, p38, p65Rel, MyD88, IRAK, TRAF6, Ikb, Inactive NIK, SAP K, SAP-1, JNK, interferon response genes, NFkB, Bax, TRAIL, TRAILrec, TRAILrecDRC5, TRAIL-R3, TRAIL-R4, RANK, RANK LIGAND, NKG2D, MICA, MICB, NKG2A, NKG2B, NKG2C, NKG2E, NKG2F, TAP1, TAP2; and
a separate nucleic acid molecule that encodes OX40;
wherein said recombinant vaccine is a recombinant vaccinia vaccine.
16. **(Canceled)**
17. **(Previously presented)** The recombinant vaccine of claim 15 wherein said immunogen is a pathogen antigen.

18. **(Previously presented)** The recombinant vaccine of claim 15 wherein the recombinant vaccine is a vaccinia vaccine.
19. **(Original)** A method of inducing an immune response in an individual against an immunogen comprising administering to said individual a recombinant vaccine of claim 17.
20. – 21. **Canceled.**
22. **(Previously presented)** The composition of claim 1 wherein the isolated nucleic acid molecule that encodes one or more immunomodulating proteins encodes O_x40.
23. **(Previously presented)** The composition of claim 7 wherein the isolated nucleic acid that encodes one or more immunomodulating proteins encodes O_x40.
24. **(Previously presented)** The recombinant vaccine of claim 15 wherein the nucleotide sequence that encodes one or more immunomodulating proteins encodes O_x40.
25. **(Previously presented)** An injectable pharmaceutical composition comprising the composition of claim 7.
26. **(Previously presented)** A method of inducing an immune response in an individual against an immunogen comprising administering to said individual a composition of claim 7.
27. **(Previously presented)** The composition of claim 1 wherein the isolated nucleic acid molecule that encodes one or more proteins encodes O_x40.
28. **(Previously presented)** The composition of claim 7 wherein the isolated nucleic acid molecule that encodes one or more proteins encodes O_x40.

29. **(Previously presented)** The recombinant vaccine of claim 15 wherein the nucleotide sequence that encodes one or more proteins encode Ox40.

30. **(Previously presented)** The composition of claim 1 wherein the composition comprises:

an isolated nucleic acid molecule that encodes an immunogen, wherein said immunogen is a pathogen antigen, a cancer-associated antigen or an antigen linked to cells associated with autoimmune diseases; and

an isolated nucleic acid molecule that encodes one or more proteins of selected from the group consisting of: Fos, c-jun, Sp-1, Ap-1, Ap-2, p38, p65Rel, MyD88, IRAK, TRAF6, Ikb, Inactive NIK, SAP K, SAP-1, JNK, interferon response genes, NFkB, Bax, TRAIL, TRAILrec, TRAILrecDRC5, TRAIL-R3, TRAIL-R4, RANK, RANK LIGAND, Ox40, NKG2D, MICA, MICB, NKG2A, NKG2B, NKG2C, NKG2E, NKG2F, TAP1, and TAP2,

wherein nucleic acid sequences that encode the immunogen occur on a separate nucleic acid molecules from nucleic acid sequences that encode one or more immunomodulatory proteins.

31. **(Previously presented)** The composition of claim 7 comprising an isolated nucleic acid molecule comprising a nucleotide sequence that encodes an immunogen operably linked to regulatory elements, wherein said immunogen is a pathogen antigen, a cancer-associated antigen or an antigen linked to cells associated with autoimmune diseases; in combination with a separate nucleotide sequence that encodes one or more immunomodulating proteins operably linked to regulatory elements, wherein said immunomodulating proteins are selected from the group consisting of: Fos, c-jun, Sp-1, Ap-1, Ap-2, p38, p65Rel, MyD88, IRAK, TRAF6, Ikb, Inactive NIK, SAP K, SAP-1, INK, interferon response genes, NFkB, Bax, TRAIL, TRAILrec, TRAILrecDRC5, TRAIL-R3, TRAIL-R4, RANK, RANK LIGAND, Ox40, NKG2D, MICA, MICB, NKG2A, NKG2B, NKG2C, NKG2E, NKG2F, TAP1, and TAP2.

32. **(Previously presented)** The recombinant vaccine of claim 15 comprising a nucleotide sequence that encodes an immunogen operably linked to regulatory elements, wherein said immunogen is a pathogen antigen, a cancer-associated antigen or an antigen linked to cells associated with autoimmune diseases; in combination with a separate, a nucleotide sequence that encodes one or more immunomodulating proteins operably linked to regulatory elements, wherein said immunomodulating proteins are selected from the group consisting of: Fos, c-jun, Sp-1, Ap-1, Ap-2, p38, p65Rel, MyD88, IRAK, TRAF6, Ikb, Inactive NIK, SAP K, SAP-1, JNK, interferon response genes, NFkB, Bax, TRAIL, TRAILrec, TRAILrecDRC5, TRAIL-R3, TRAIL-R4, RANK, RANK LIGAND, Ox40, NKG2D, MICA, MICB, NKG2A, NKG2B, NKG2C, NKG2E, NKG2F, TAP1, and TAP2.

33. **(New)** The composition of claim 7 wherein s the nucleotide sequence that encodes one or more immunomodulating proteins encodes TRAIL.

34. **(New)** The recombinant vaccine of claim 15 wherein the nucleotide sequence that encodes one or more immunomodulating proteins encodes TRAIL.